

REMARKS

The present application was filed on September 26, 2003 with claims 1 through 23. Claims 11-17 were cancelled in the Amendment and Response to Office Action dated March 7, 2008. Claims 1-10 and 18-23 are presently pending in the above-identified patent application.

5 Claims 1 and 18 are proposed to be amended herein.

In the Office Action, the Examiner rejected claims 18-23 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter, and rejected claims 1-10 and 18-23 under 35 U.S.C. §103(a) as being unpatentable over Wang (United States Patent No. 5,721,733) and Curriyan et al. (United States Patent Application Publication Number 10 2003/0026283) in view of Kanterakis et al. (United States Patent No. 6,169,759).

Applicants thank the Examiner for the courtesy of a telephonic interview on November 24, 2009. During the interview, Applicant noted that the output signal 459 disclosed by Curriyan indicates the average SNR of a burst transmission, and that a SNR is a *signal-to-noise ratio* and is *not* a measured *energy level*, as required by the independent claims. The 15 Examiner maintained, however, that a SNR is based on an *energy level*. No agreement was reached.

Section 101 Rejections

Claims 18-23 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. In particular, the Examiner asserts that, while the 20 instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Applicants note that independent claim 18 requires a wireless communication network and is therefore tied to another statutory category. In addition, independent claim 18 25 has been amended to require wherein one or more of said steps are performed by a processor.

Thus, Applicants respectfully request that the section 101 rejections be withdrawn.

Independent Claims 1 and 18

Independent claim 1 and 18 were rejected under 35 U.S.C. §103(a) as being 30 unpatentable over Wang and Curriyan et al. in view of Kanterakis et al. In particular, the

Examiner asserts that Wang discloses a collision detector that monitors a wireless medium for collisions of the acknowledgement message (col. 5, line 66, to col. 6, line 8). Applicants also note that the Examiner acknowledges that Wang does not disclose that the collision detector evaluates an energy level, preamble detection, and payload detection. The Examiner asserts,
5 however, that Curriwan et al. discloses a collision detector that monitors for collisions based on an energy level and preamble detection (paragraphs 55-58 and 70-78; a collision is detected based on an energy level and a preamble detection; for example, an in-phase collision is detected when the output signal 459 is low and the output signal 457 is high, where the output signal is related to the SNR indication signal 438 and the output signal 457 is related to the power
10 indication signal). Furthermore, the Examiner acknowledges that Wang and Curriwan do not expressly disclose a collision detector that monitors for collisions based on payload detection, but asserts that Kanterakis discloses this limitation (col. 6, lines 45-50, and col. 9, lines 8-17).

Applicants note that independent claims 1 and 18, as amended, require a controller configured to monitor for an acknowledgement (ACK) message transmitted by a
15 second wireless communication device in response to a message transmitted by said first wireless communication device, and a collision detector that monitors a wireless medium for collisions of said acknowledgement message based on a comparison of an energy level and an energy level threshold, preamble detection, and payload detection. Support for this amendment can be found on page 7, lines 10-20, of the originally filed disclosure.

20 First, as the Examiner acknowledges, Wang does not disclose a collision detector that monitors a wireless medium for collisions based on an energy level, preamble detection, and payload detection.

Applicants also note that, in par. 0076 of Curriwan et al., it is clear that output
signal 457 indicates the power of the data portion of a burst transmission. In Table 1, it is clear
25 that output signal 457 does **not** correlate with whether a collision is detected. In fact, a collision can be detected if the output signal 457 is high (second row), medium (fourth row), low (sixth row) or high (seventh row). Thus, a collision is *not* detected in Curriwan et al. based on a comparison of an energy level and an energy level threshold, as required by independent claims 1 and 18, as amended.

Regarding the Examiner's previous assertion that Curriyan discloses that a collision is detected when the output signal 459 indicates the average SNR of a burst transmission is low, Applicants note that a SNR is a *signal-to-noise ratio* and is *not* a measured *energy level* (i.e., not a measured level of energy), as would be apparent to a person of ordinary skill in the art. Thus, Curriyan does *not* disclose or suggest determining an *energy level* or monitoring said wireless communication network to detect a collision of said acknowledgement message *based on a comparison of an energy level and an energy level threshold* or *based on a comparison of an energy level and an energy level threshold, preamble detection, and payload detection.*

Thus, even as combined in the manner suggested by the Examiner, Wang and Curriyan *do not teach every element of the independent claims*. Furthermore, based on the KSR considerations discussed hereinafter, the combination/modification suggested by the Examiner is not appropriate.

KSR Considerations

An Examiner must establish "an apparent reason to combine ... known elements." *KSR International Co. v. Teleflex Inc. (KSR)*, 550 U.S. ___, 82 USPQ2d 1385 (2007). Here, the Examiner merely states that it would have been obvious to implement a collision detection module as taught by Curriyan into the collision detecting apparatus of Wang since it enables accurate detection of collisions.

Applicants are claiming a new technique for collision detection in a communication network. There is *no* suggestion in Wang or in Curriyan, alone or in combination, for a collision detector that monitors a wireless medium for collisions of said acknowledgement message *based on a comparison of an energy level and an energy level threshold, based on a comparison of an energy level and an energy level threshold and preamble detection* or *based on a comparison of an energy level and an energy level threshold, preamble detection, and payload detection.*

Curriyan's teaching to utilize a SNR ratio *teaches away* from the present invention. The *KSR* Court discussed in some detail *United States v. Adams*, 383 U.S. 39 (1966), stating in part that in that case, "[t]he Court relied upon the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means

of combining them is more likely to be nonobvious." (KSR Opinion at p. 12). Thus, there is no reason to make the asserted combination/modification.

Thus, Wang, Curran, and Kanterakis, alone or in combination, do not disclose or suggest a controller configured to monitor for an acknowledgement (ACK) message transmitted by a second wireless communication device in response to a message transmitted by said first wireless communication device, and a collision detector that monitors a wireless medium for collisions of said acknowledgement message based on a comparison of an energy level and an energy level threshold, preamble detection, and payload detection, as required by independent claim 1, as amended, and do not disclose or suggest monitoring said wireless communication network for an acknowledgement message received in response to transmitted data; and monitoring said wireless communication network to detect a collision of said acknowledgement message based on a comparison of an energy level and an energy level threshold, preamble detection, and payload detection, as required by independent claim 18, as amended.

15 Dependent Claims

Claims 2-10 and 19-23 are dependent on claims 1 and 18, respectively, and are therefore patentably distinguished over Wang, Curran, and Kanterakis, alone or in combination, because of their dependency from amended independent claims 1 and 18 for the reasons set forth above, as well as other elements these claims add in combination to their base 20 claim.

All of the pending claims following entry of the amendments, i.e., claims 1-10 and 18-23, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at 25 the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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